Another round of looking at the Carl Differentiation

I have installed the differentiation routine into my reconstruction program.   As a part of testing the procedure, I made plots of the effect on individual signals from each of the planes.

The data is from runs 97 and 121 which have the counters set up so that there are nice long tracks in the 2nd and 3rd planes, or the 1st and 2nd planes.   Thus there are nice examples from all three planes. I have also looked at pulses on each side as there are different electronics on the two halves of each plane.

The parameters I use are 10 channels for the numerator and 20 for the denominator as I noted earlier.

As can be seen from the plots, the method works well for all of the planes.   A more careful optimization is probably appropriate for each plane and electronic time constant choice. That is work to be done